

CLAIMS:

1. A component placement machine with a frame and with a transport device for transporting printed circuit boards in an X-direction, which transport device comprises at least one transport beam extending in the X-direction, which beam can be driven in the X-direction in a reciprocating movement, characterized in that the transport device is provided with clamping means connected to the transport beam for clamping in at least one lateral edge extending in the X-direction of the printed circuit boards to be transported, and in that the device is further provided with supporting means connected to the frame for supporting two lateral edges on both sides of the printed circuit boards, which clamping means can be brought into an active clamping position such that the clamping means are active during the movement of the transport beam in the positive X-direction and can be brought in a rest position during returning of the transport beam in the negative X-direction, in which rest position of the clamping means the printed circuit boards are being supported by the supporting means.
2. A component placement machine according to claim 1, characterized in that the clamping means comprise a fixed jaw portion, which cooperates with an upper side of the printed circuit board and a moveable jaw portion which is movable in a Z-direction to the fixed jaw portion to cooperate with a lower side of the printed circuit board and is movable away from the fixed jaw portion to release the printed circuit board.
3. A component placement machine according to claim 2, characterized in that the fixed jaw portion comprises a number of clamping elements which extend in an X-direction one behind the other.
4. A component placement machine according to claim 3, characterized in that each clamping element comprises a leaf spring.

5. A component placement machine according to claims 2-4, characterized in that the transport device comprises a bed of supporting pins, movable simultaneously with the movable jaw portion.

5 6. A component placement machine according to one of the preceding claims, characterized in that the supporting means comprises two ridges extending in the X-direction.

7. A component placement machine according to claim 6, characterized in that the distance between the ridges is adjustable.

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8. Method for transporting printed circuit boards with respect to a frame by means of a transport beam in an X-direction whereby at least one printed circuit board is moved by means of the transport beam from an initial position in a positive X-direction to a predetermined position, after which the transport beam is lowered with respect to the printed
15 circuit board in a negative Z-direction over a predetermined distance, the transport beam is moved in the negative X-direction to the initial position and the transport beam is moved up again in the positive Z-direction over the predetermined distance, characterized in that the movement of the transport beam in the negative X-direction as well as the Z-direction is partly simultaneously.

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9. Method according to claim 8, characterized in that the movement of the transport beam in the negative X-direction is started as soon as the transport beam has been moved in the negative Z-direction over a safety distance but before the transport beam has been moved in the negative Z-direction over the predetermined distance.

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10. Method according to claim 8, characterized in that the movement of the transport beam in the positive Z-direction is started before the transport beam is at the initial position in X-direction but only after the transport beam has reached the initial X-position the transport beam will be moved from a safety distance to the initial position in Z-direction.

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11. Method according to one of the preceding claims 9 or 10, characterized in that the safety distance is adjustable.